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THE DEFENCE CAPABILITIES INITIATIVE AND US-NATO RELATIONS

Responding to the Revolution in Military Affairs

by

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ABSTRACT

This report looks at NATO's Defence Capabilities Initiative (DCI) in the context of the Revolution in Military Affairs (RMA) and examines the broader implications for America's relations with its European allies. It concludes that the DCI can be viewed optimistically as the practical expression of requirements to respond to the RMA. As such, the DCI is central not only to improving the military capabilities of European forces and strengthening the European Pillar of NATO, but also to ensuring the continued military and political viability of the North Atlantic Alliance. If the DCI does not ultimately translate into concrete improvements in the European component of NATO's force posture, the long-term viability of the transatlantic link will come under increasing pressure from a US Congress increasingly sceptical about the European commitment to keeping pace with the RMA.

RÉSUMÉ

Ce rapport examine l'Initiative sur les capacités de défense (ICD) lancée dans le cadre de la Révolution dans les affaires militaires (RAM), ainsi que ses répercussions sur les relations entre les États-Unis et leurs alliés européens. Il conclut que l'on peut affirmer avec optimisme que l'ICD exprime concrètement les besoins découlant de la RAM. À ce titre, l'ICD se situe au cœur des efforts indispensables à l'amélioration des moyens militaires des forces armées européennes et au renforcement du pilier européen de l'OTAN. Elle assure enfin à l'Alliance de l'Atlantique Nord la viabilité militaire et politique. Si l'ICD ne se traduit pas en fin de compte par des améliorations concrètes à l'élément européen du dispositif des forces de l'OTAN, la viabilité à long terme du lien transatlantique subira de plus en plus les pressions d'un Congrès américain en proie à un plus grand scepticisme quant à l'engagement de l'Europe à suivre le rythme de la RAM.

SOMMAIRE

1. En avril 1999, à Washington, les chefs d'État et de gouvernement des pays de l'OTAN ont lancé L'Initiative sur les capacités de défense (ICD). L'objectif de cette initiative est de garantir l'efficacité des opérations présentes et futures dans la gamme complète des missions de l'Alliance. Conçu à l'origine comme une façon de corriger l'écart technologique sans cesse grandissant entre les États-Unis et leurs alliés de l'OTAN, le concept de l'ICD a depuis été élargi pour englober la doctrine et l'organisation des opérations militaires futures. Cet élargissement s'inscrit dans la foulée de la Révolution dans les affaires militaires (RAM) amorcée par les États-Unis.

2. La Révolution dans les affaires militaires signifie que *les progrès technologiques mèneront à des changements fondamentaux dans la conduite de la guerre. En d'autres termes, une transformation radicale de la doctrine militaire ainsi que des concepts opérationnels et organisationnels entraînera une modification non moins radicale de la nature et de la conduite des opérations militaires.* Sur le plan militaire, d'abord, les changements technologiques découlant de la RAM concernent notamment les munitions à guidage de précision servant aux frappes chirurgicales, les avions furtifs permettant d'accroître la portée des frappes, les dispositifs de renseignement avancés, les systèmes de surveillance et de reconnaissance destinés à renseigner sur ce qui se passe dans l'espace de bataille, ainsi que les systèmes avancés de commandement, de contrôle, de télécommunications et d'information nécessaires à la maîtrise de cet espace. Sur le plan de la doctrine, ensuite, les changements essentiels portent sur les services interarmées, les forces multinationales, la guerre menée le long des côtes et les opérations qui permettent de rompre le combat avec l'ennemi, en faisant appel à des armes de précision ainsi qu'à des forces terrestres plus petites, plus rapides, plus mobiles, plus souples et, de ce fait, plus meurtrières. Sur le plan organisationnel, enfin, les modifications impliquent que les armées aux effectifs nombreux devront se transformer en forces armées professionnelles plus petites, faisant appel à un personnel des plus qualifié et disposant de capitaux très importants. Ces forces compteront sur des unités qui répondront à des structures de décision plus décentralisées et mieux adaptées aux missions qui leur seront confiées[1].

3. L'opération FORCE ALLIÉE qui s'est déroulée au Kosovo au printemps de 1999 a souligné la faiblesse des États européens membres de l'OTAN vis-à-vis de certains aspects de la RAM. Qu'on en juge. Plus de 70 p. 100 de la puissance de feu était américaine. Seulement quelques États européens membres de l'OTAN étaient dotés de bombes à guidage de précision. Les missiles de croisière largués appartenaient tous aux Américains ou aux Britanniques. À peine 10 p. 100 des aéronefs européens étaient équipés de bombes à guidage laser. Parmi tous les alliés européens, seule la France a été en mesure de participer de façon significative aux raids aériens menés à haute altitude la nuit. Aucun pays ne disposait d'armes de précision tout temps guidées par satellite, de bombardiers stratégiques et d'avions furtifs, à l'exception des États-Unis, bien

[1] Pour un examen approfondi des aspects les plus importants de la révolution dans les affaires militaires, prière de consulter : Elinor C. Sloan, *The United States and the Revolution in Military Affairs* (compte rendu de projet du DA Strat n° 98/01, février 1998).

entendu. L'insuffisance notoire d'aéronefs de reconnaissance et de surveillance appartenant à des Européens a également été notée.

4. Par comparaison, le Canada a fait plus que sa part durant l'opération FORCE ALLIÉE. Il a affecté en tout 18 avions d'attaque CF-18, chacun équipé de dispositifs de poursuite à infrarouge *Nighthawk* et de munitions à guidage de précision. Les avions de chasse canadiens ont effectué en moyenne 10 p. 100 des frappes et, tout au long de l'opération, ils ont représenté entre 5 et 25 p. 100 de la force de frappe. Les CF-18 aux tâches multiples ont été en mesure de mener des combats air-air ainsi que de bombarder des installations et des forces terrestres.

5. Les pays européens membres de l'OTAN ont donc décidé de souscrire à la RAM[2]. Ainsi, ils ont exprimé l'intention d'augmenter, sur une période de plusieurs années, leurs moyens en matière de guidage de précision, de furtivité, de sensibilisation à l'espace de bataille et de contrôle. Ils ont aussi l'intention de restructurer leurs armées, en se dotant de forces plus mobiles et d'une puissance de feu supérieure[3]. Même l'OTAN a décidé d'adapter sa structure de commandement militaire interarmées pour tenir compte du nouveau contexte de la sécurité qui prévaut depuis la fin de la guerre froide. Le concept des Groupes de forces interarmées multinationales (GFIM) a donc été adopté afin de mieux faire face aux menaces et risques du monde actuel.

6. À l'exception des mesures susmentionnées, les forces armées européennes n'arrivent pas à adapter leurs systèmes militaires aux nouvelles technologies ni à restructurer leurs organisations dans des délais suffisamment rapides pour combler leurs lacunes par rapport aux forces armées américaines. C'est aussi vrai dans le cas des forces armées canadiennes, mais l'écart n'est pas aussi grand vu les relations de défense étroites qui existent entre le Canada et les États-Unis depuis la Seconde Guerre mondiale[4]. Déjà évidentes au moment de la guerre du Golfe, ces lacunes sont devenues criantes pendant les opérations au Kosovo. Même si l'Union européenne peut compter sur un effectif militaire de presque deux millions d'hommes et de femmes, là où les États-Unis n'en totalisent que 1,45 million, elle n'a pu fournir en fait que la moitié des troupes nécessaires au Kosovo[5]. À vrai dire, si les sommes consacrées aux budgets européens de la défense équivalent en gros aux deux tiers du budget de la défense des États-Unis, le Vieux continent est bien loin de disposer de l'équivalent des deux tiers des moyens américains.

7. L'écart se creuse, en partie, parce que les pays de l'Europe occidentale ont réduit de beaucoup la part de leur budget consacrée à la défense. En effet, depuis la fin de la guerre froide,

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[2] La réaction du Canada face à la RAM ainsi que les défis et les possibilités qui se présentent à lui seront examinés dans un rapport distinct du DA Strat sur le Canada et la RAM, qui sera publié en l'an 2000.

[3] L'attitude de la Grande-Bretagne, de la France et de l'Allemagne face à la Révolution dans les affaires militaires est explorée plus à fond dans : Elinor C. Sloan, *Allied Approaches to the Revolution in Military Affairs: Britain, France, Germany and Australia* (compte rendu de projet du DA Strat n° 99/03, février 1999).

[4] Ce sujet sera examiné dans le rapport sur le Canada et la RAM (à paraître).

[5] Pour sa part, le Canada a affecté 32 pilotes et 275 membres du personnel de soutien à l'opération aérienne, de même qu'environ 90 militaires participant aux patrouilles AWACS de l'OTAN. Au sol, il fournit quelque 800 soldats à la force de maintien de la paix menée par l'OTAN.

les crédits que les pays européens membres de l'OTAN allouent à la défense ont diminué, en chiffres absolus, de 25 p. 100. Résultat : le matériel militaire acheté par les Européens ne représente que le tiers des acquisitions de l'OTAN. Fait plus important encore, ces derniers n'investissent pas dans les mêmes choses que les Américains, si bien que l'écart ne cesse de grandir. En matière de recherche et de développement, les États-Unis consacrent grosso modo deux fois et demie plus d'argent que tous les États européens membres de l'OTAN réunis. Ils contribuent puissamment aux innovations révolutionnaires observées dans les domaines des logiciels, des télécommunications, des capteurs et des technologies liées à la logistique, ce qui leur permet de compenser la diminution des ressources humaines et matérielles. D'autres facteurs entrent également en jeu, en particulier: la lenteur de la professionnalisation et de la restructuration des armées en cours dans certains pays européens, ainsi que l'insuffisance des moyens de transport stratégiques aériens et maritimes, d'où le recours obligé aux Américains.

8. Les écarts signalés entre les États-Unis et leurs alliés européens tant du point de vue de la technologie que des moyens sont gros de conséquences. L'effet le plus immédiat concerne la capacité de mener des opérations aux côtés des Américains, compte tenu des retards technologiques accumulés par les Européens. Même si les problèmes de compatibilité des équipements se sont posés dès la création de l'Alliance, les progrès techniques actuels dans les domaines des télécommunications, du traitement informatique et des armes de précision sont tels que les équipements américains sont en passe d'éclipser complètement ceux des alliés et de remettre en cause leur capacité de travailler ensemble. Cet état de fait risque de créer de nouvelles tensions au sein de l'Alliance, qui pourraient en menacer la cohésion. En effet, des tensions pourraient se manifester si les armées européennes étaient contraintes, faute de moyens, à se livrer de plus en plus à des tâches dangereuses, nécessitant des effectifs importants et susceptibles de provoquer des pertes de vie considérables, tandis que les Américains, grâce à leurs moyens de haute technologie, se chargeraient de la logistique, de l'emport, du renseignement et de la puissance aérienne. On pourrait aussi ne pas s'entendre sur le partage des tâches, ce qui susciterait beaucoup d'amertume de part et d'autre de l'Atlantique, car les Européens seraient contraints de dépendre davantage des Américains, alors qu'ils sont censés contribuer encore davantage à leur propre défense.

9. Les écarts constatés sur les plans de la technologie et des moyens ont pour conséquence de remettre en cause éventuellement l'importance politique et militaire de l'Alliance de l'Atlantique Nord. S'il est vrai que cette disparité n'a pas empêché Américains et Européens de mener à bien leurs opérations conjointes en Bosnie et au Kosovo, de nombreux spécialistes sont d'avis que les forces armées européennes pourraient être de peu de secours dans des opérations plus difficiles. L'ironie, c'est que plus leurs intérêts communs seraient menacés, plus les États-Unis et les pays européens seraient incapables de se coaliser suffisamment pour réagir. En fin de compte, si les alliés européens veulent que les États-Unis continuent à appuyer politiquement et militairement l'Alliance, ils devront être en mesure d'apporter une contribution valable aux opérations interalliées. Dans le cas où les Européens refuseraient d'en faire davantage, l'OTAN ne serait pas dissoute d'un seul coup, mais elle pourrait rapidement perdre de l'importance par rapport à l'ensemble des engagements en matière de sécurité auxquels les Américains souscrivent outre-mer. Donc, en se dotant de moyens militaires accrus, les Européens ne supplantent pas l'OTAN; bien au contraire, ils en assurent la survie.

10. Conscients de cette réalité et désireux de profiter de l'effet Kosovo, les chefs d'État et de gouvernement se sont engagés à mener une Politique étrangère et de sécurité commune (PESC). Ils ont nommé à cet effet un haut représentant pour la PESC. Ils ont également proclamé leur intention d'intégrer à l'Union européenne (UE) l'Union de l'Europe occidentale (UEO) et de faire de l'Eurocorps une force de réaction rapide. En outre, les chefs politiques de l'Alliance réunis au Sommet de Washington ont décidé de faire progresser le concept des GFIM, en se ralliant au principe de «présomption de disponibilité» des ressources militaires de l'OTAN, si l'UE en faisait la demande. Malgré ces mesures, la plupart des analystes et des décideurs ont le sentiment que, pour renforcer l'IESD (Identité européenne de sécurité et de défense), il faudra insister davantage sur la modernisation des forces armées que sur la réforme des structures, de façon à refléter les réalités internationales d'aujourd'hui en matière de sécurité. Cela suppose notamment que certains États membres de l'UE augmentent les crédits de défense, et surtout, que la majorité d'entre eux les répartisse en fonction de nouveaux impératifs.

11. Dans ce nouveau contexte, l'Initiative sur les capacités de défense est appelée à jouer un rôle clé. N'a-t-elle pas précisément pour objet de cerner les secteurs où l'Alliance a besoin d'améliorer ses moyens militaires en vue de relever les différents défis qui ne manqueront probablement pas de se poser dans les années et les décennies à venir? L'ICD met l'accent sur la nécessité d'améliorer l'interopérabilité des forces armées des États membres et d'accroître les ressources militaires de l'OTAN dans différents domaines touchant les forces alliées : mobilité et capacité de déploiement, soutenabilité et logistique, survivabilité, solide potentiel d'enagagement et systèmes efficaces de commandement, de contrôle et d'information.

12. Tous ces domaines renvoient aux éléments technologiques, doctrinaux et organisationnels indispensables à la Révolution dans les affaires militaires. La capacité de déploiement ne peut se réaliser qu'à deux conditions : investir dans des moyens de transport aériens et maritimes, et fractionner les forces en unités plus petites, qui seront plus mobiles par le fait même, et les doter d'armes plus légères, mais non moins meurtrières. La soutenabilité dépendra pour sa part de l'application des techniques de pointe à la logistique. Pour développer le potentiel d'engagement, il faudra disposer d'une panoplie de systèmes d'armes avancés qui rendent possible la Révolution dans les affaires militaires, à savoir les munitions à guidage de précision, les systèmes de surveillance et de reconnaissance tout temps, les hélicoptères d'attaque et les avions furtifs. Il sera également indispensable que ces systèmes soient «interopérables», pour que les différentes armées puissent toutes s'en servir au cours d'opérations interarmées et combinées, comme le veut la RAM. La survivabilité présuppose la protection des forces contre l'usage éventuel d'armes de destruction massive. Enfin, l'utilisation de systèmes de commandement, de contrôle et d'information avancés, «interopérables» et déployables, est au cœur de la RAM, dans la mesure où ces derniers renforcent la capacité militaire.

13. Ainsi, les notions de déployabilité, de soutenabilité, de potentiel de prise à partie, de survivabilité ainsi que celles de commandement et de contrôle constituent les thèmes centraux non seulement de l'ICD, mais de la RAM. On peut même affirmer avec optimisme que l'Initiative sur les capacités de défense exprime concrètement les besoins découlant de la Révolution dans les affaires militaires et, à ce titre, elle se situe au cœur des efforts indispensables à

l'amélioration des moyens militaires des forces armées européennes et au renforcement du pilier européen de l'OTAN. Elle assure enfin à l'Alliance de l'Atlantique Nord la viabilité militaire et politique. Une chose est sûre : si l'ICD ne se traduit pas en fin de compte par des améliorations concrètes à l'élément européen du dispositif des forces de l'OTAN, la viabilité à long terme du lien transatlantique subira de plus en plus les pressions d'un Congrès américain en proie à un plus grand scepticisme quant à l'engagement de l'Europe à suivre le rythme de la RAM.

EXECUTIVE SUMMARY

1. At the April 1999 Washington Summit NATO leaders launched the Defence Capabilities Initiative (DCI). The objective of the Initiative is to ensure that the Alliance can effectively carry out operations across the entire spectrum of its present and possible future missions. Although originally intended as a measure to address the growing technology gap between the United States and its NATO allies, the Initiative has subsequently been broadened to include doctrinal and organizational elements of future military operations. In taking on this broader mandate the Initiative attempts to respond to the US-led Revolution in Military Affairs (RMA).

2. A Revolution in Military Affairs refers to *a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alter the character and conduct of military operations*. New military technologies associated with the RMA include precision-guided munitions for precision force, stealth for greater power projection, advanced intelligence, surveillance and reconnaissance systems for enhanced battlespace awareness, and advanced command, control, communications and computing systems for increased battlespace control. Key doctrinal developments focus on jointness among services and combinedness among countries, littoral warfare, disengaged combat using precision force, and smaller, more rapidly mobile and flexible yet highly lethal ground forces. Organizational changes center on a shift from mass armies to smaller, more highly-educated and capital-intensive professional armed forces whose units are commanded by a more decentralized decision-making structure and can be specifically tailored to the task at hand.[1]

3. Operation Allied Force in and around Kosovo in the spring of 1999 demonstrated the limited capabilities of European members of NATO in several RMA areas. More than 70 percent of the firepower deployed was American. Only a few European members of NATO had laser-guided bombs, and only Britain was able to contribute cruise missiles. Barely 10% of European aircraft are capable of precision bombing and of the European allies, only France was able to make a significant contribution to high-level bombing raids at night. Only the United States could contribute strategic bombers and stealth aircraft for enhanced power projection. European allies also critically lacked reconnaissance and surveillance aircraft.

4. Canada, by comparison, "punched above its weight" during Operation Allied Force. Canada contributed a total of 18 CF-18 strike aircraft to the operation, each equipped with *Nighthawk* infrared tracking devices and precision-guided munitions. Canadian fighter jets did on average 10 per cent of the strike missions and represented between 5 and 25 per cent of the strike force on any given day of the operation. The multitasked CF-18's were able to conduct air-to-air combat as well as bomb facilities and ground forces.

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[1] For a more detailed discussion of the key elements of the Revolution in Military Affairs please see Elinor C. Sloan, *The United States and the Revolution in Military Affairs* (D Strat A Project Report No. 98/01, February 1998).

5. European members of NATO are taking measures to respond to the RMA.[2] They plan to increase their precision force, stealth and battlespace awareness and control capabilities over the next several years, and are adopting force mobility and power projection as the guiding doctrines for transforming their militaries.[3] NATO itself has moved to adapt its joint military command structure to the post-Cold War security environment and has developed the Combined Joint Task Force (CJTF) concept to increase its ability to respond to today's security risks and threats.

6. But outside these measures Europe's militaries are not incorporating advanced technologies into their military systems quickly enough, nor moving rapidly enough to restructure their militaries, to stem a growing technology and capability "gap" between the US military and its European counterparts. This is true too of the Canadian military, although here the gap is not as wide due to the close bilateral defence relations between Canada and the United States since World War Two.[4] The gap has been apparent since at least the Gulf War but was dramatically highlighted by the 1999 NATO operation in and around Kosovo. Although the European Union's militaries comprise almost two million people, as compared to America's 1.45 million, it could draw up only half the number of properly equipped and trained professional soldiers specified for Kosovo.[5] Indeed, while European countries spend about two-thirds of what the United States spends on defence, they do not have anything like two-thirds of the capabilities.

7. The widening gap is partly due to substantially reduced defence budgets in West European countries. Since the end of the Cold War NATO's European members have cut defence spending by about 25 percent in real terms. As a result, they account for less than one-third of NATO's total equipment spending. More importantly, however, it is the manner in which remaining funds are put to use that explains the growing gap. The United States spends roughly two and a half times as much on research and development as all European members of NATO combined, and has more aggressively pursued revolutionary innovations in software, communications, sensor and logistics technology to compensate for manpower and equipment reductions. Other factors contributing to the gap include a slow move towards military professionalisation and restructuring on the part of some European countries, and a lack of strategic air and sea lift which renders them dependent on the United States for this capability.

8. The technology and capability gap between the United States and its European allies has a number of implications. The most immediate is that European militaries will soon be unable to

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[2] Canada's response to the RMA, and the challenges and opportunities it faces, will be explored in a separate D Strat A report on *Canada and the RMA*, forthcoming in 2000.

[3] For a more detailed discussion of how Britain, France and Germany are responding to the Revolution in Military Affairs please see Elinor C. Sloan, *Allied Approaches to the Revolution in Military Affairs: Britain, France, Germany and Australia* (D Strat A Project Report No. 99/03, February 1999).

[4] To be explored in *Canada and the RMA* (forthcoming).

[5] For its part, Canada contributed 32 pilots and 275 support staff to the air operation, as well as about 90 personnel involved with NATO AWACS patrols. On the ground, Canada is contributing some 800 troops to the NATO-led peacekeeping force.

operate alongside the Americans because of their "technological backwardness." Although problems of compatibly have been an issue for the alliance since its inception, the difference today is that US advancements in communications, data processing and precision-guided weapons are in the process of "completely eclipsing" those of its allies and casting into question their ability to function together. The gap could also breed new tension within the alliance, undermining its cohesiveness. Tension could arise if European armies by default find themselves increasingly responsible for the dangerous, manpower intensive tasks that can lead to significant casualties, while the United States provides the high-tech logistics, lift, intelligence and air power. The gap could also raise burden sharing issues and aggravate mutual resentments by increasing Europe's security dependence on the United States at a time when Europeans are expected to do more for their own security.

9. Most significantly, the technology and capability gap could eventually marginalise the political and military importance of the North Atlantic Alliance. While the divergence in capabilities has not prevented successful operations in Bosnia or Kosovo, many experts argue that European militaries could provide little help in a more demanding engagement. Thus, ironically, the more severe the threat to interests shared by the United States and Europe, the less likely that a true US-European coalition will respond. Continued political and military support for the alliance on the part of the United States will ultimately depend on the ability of its European allies to make a valid contribution to combined operations. While NATO would not disappear overnight if its European members refused to adapt, the alliance could quite quickly lose its place in the hierarchy of the United States' overseas security commitments. Far from replacing NATO, therefore, enhanced European military capabilities are central to the Alliance's future viability.

10. Recognizing this, in the wake of the Kosovo crisis European leaders restated their commitment to the development of an effective European defense and security policy. They appointed a High Representative for a Common Foreign and Security Policy, and plan to merge the Western European Union with the European Union (EU) and transform the Eurocorps into a rapid reaction force. In addition, at the Washington Summit alliance leaders advanced the CJTF initiative by committing to a "presumption of availability" of NATO assets to the EU. Despite these steps most analysts and policy makers agree that a stronger ESDI will depend less on institutional changes and more on modernising forces to meet the demands of the new international security environment. In part this means some EU members spending more on defence. But more importantly it means most members spending their defence budgets on different things.

11. It is here that the Defence Capabilities Initiative has a key role to play. The DCI is specifically designed to address those areas where the Alliance needs to develop its military capabilities in order that it can effectively respond to the sorts of challenges it is likely to face in the coming years and decades. The Initiative focuses on improving interoperability among the forces of member states and seeks to increase NATO military capabilities in the areas of deployability and mobility of allied forces, their sustainability and logistics, their survivability and effective engagement capability, and command and control and information systems.

12. These areas of focus echo the key technological, doctrinal and organizational elements of the Revolution in Military Affairs. Deployability is best enhanced by investing in air and sea lift and by

reorganising forces into smaller, more rapidly mobile units that are equipped with lighter yet highly lethal weapons. Sustainability will be dependent in part on applying advanced technologies to logistic efforts. Effective engagement requires a wide variety of advanced weapons systems associated with the RMA, from precision-guided munitions and all-weather surveillance and reconnaissance systems to attack helicopters and stealth aircraft. It also necessitates that these systems be interoperable among services and militaries to facilitate the joint and combined operations that are fundamental to the RMA. Survivability involves efforts to protect forces against the possible use of weapons of mass destruction. Finally, advanced, interoperable, and deployable command and control and information systems are key elements of the RMA and are essential for enhancing military capability.

13. Thus deployability, sustainability, effective engagement, survivability and command and control are not only the primary areas of focus for the DCI but they also capture the key elements of the RMA. Indeed, the Defence Capabilities Initiative can be viewed optimistically as the practical expression of requirements to respond to the Revolution in Military Affairs. As such, the DCI is central not only to improving the military capabilities of European forces and strengthening the European Pillar of NATO, but also to ensuring the continued military and political viability of the North Atlantic Alliance. One thing is certain: if the DCI does not ultimately translate into concrete improvements in the European component of NATO's force posture, the long-term viability of the transatlantic link will come under increasing pressure from a US Congress increasingly sceptical about the European commitment to keeping pace with the RMA.

INTRODUCTION

1. One of the most significant outcomes of NATO's 50th anniversary Summit in Washington, D.C. in April 1999 was the decision taken by Alliance Heads of State and Government to launch a Defence Capabilities Initiative (DCI). The objective of this initiative is to ensure that the Alliance can effectively carry out operations across the entire spectrum of its present and possible future missions – from responding to a humanitarian disaster to carrying out a peace-enforcement operation to conducting high-intensity warfare in defence of Alliance territory. The Initiative places special emphasis on improving interoperability among the forces of member states and seeks to increase NATO military capabilities in the areas of deployability and mobility of allied forces, their sustainability and logistics, their survivability and effective engagement capability, and command and control and information systems.[1]

2. Although originally intended as a measure to address the growing technology gap between the United States and its NATO allies, the Initiative has subsequently been broadened to include doctrinal and organizational elements of future military operations, such as the need to be able to deploy mobile and sustainable forces.[2] In taking on this broader mandate the Initiative goes beyond longstanding initiatives like the NATO Standardization Program and attempts to respond to the American-led Revolution in Military Affairs (RMA).

3. This report looks at the Defence Capabilities Initiative in the context of the Revolution in Military Affairs and examines the broader implications for America's relations with its European allies. It first outlines the key elements of the RMA, before examining the degree to which European members of NATO are responding to these changes. It then places these findings in wider perspective, looking at the RMA's role in strengthening the European Pillar of the Alliance and, by extension, enhancing the partnership between the United States and its European allies. The report concludes that the pursuit of at least some aspects of the RMA through the DCI by European members of NATO will be critical to their future relations with the United States and to the long-term viability of NATO's collective defence arrangements.

WHAT IS THE RMA?

4. A Revolution in Military Affairs refers to *a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine and operational and organizational concepts, fundamentally alter the character and conduct of military operations.*[3] It is important to note that this definition includes more than technological advances. Indeed, the central tenet of an RMA is that advances in technology will lead to significant changes in how military forces are organised, trained and equipped for war, thereby reshaping the way in which wars are fought.

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[1] NATO Heads of State and Government, *Washington Summit Communiqué*, 24 April 1999, para 11.

[2] Marc Rogers, "Will NATO Go Global?," *Jane's Defence Weekly*, 14 April 1999.

[3] Andrew Marshall, Director of the US DoD's Office of Net Assessment, as quoted in Benjamin S. Lambeth, "The Technology Revolution in Air Warfare," *Survival* (Spring 1997), p. 75.

5. The RMA is being driven by a number of factors. They include: advances in military technologies, notably in computers, telecommunications, sensors, and precision-guided munitions, which in turn are being driven by the information revolution in the civilian world; reductions in defence budgets that have brought about dramatic reductions in the size of military forces in Western countries since the end of the Cold War; the resulting need to emphasise qualitative improvements to compensate for reduced numbers of forces; a strategic environment that, in contrast to that of the Cold War, is characterised by unpredictable threats and risks that are likely to allow little, if any, time for mobilisation; the resulting need for forces to be able to respond rapidly to a wide spectrum of regional conflict scenarios; and a lower tolerance among Western nations for casualties.

6. In recent years there has been much debate as to whether or not there really is a *revolution* in military affairs, or if we are instead witnessing *evolutionary* developments in warfare.[4] Regardless of the answer to this question it is clear that over the past several years -- perhaps decades[5]—the nature of warfare has been changing. The following outlines some of the key technological, doctrinal and organizational changes in how modern militaries conduct operations.

Technology

7. Advanced military technologies associated with the RMA can be roughly grouped into three areas: technologies that allow forces to impose accurate and lethal effects from safe distances, those that increase power projection capabilities, and those that enhance battlespace awareness and control.

8. The development of precision-guided munitions has enabled modern militaries to apply force with greater speed, range and accuracy. Today's "smart" or "brilliant" weapons range from missiles to individual warheads to defences against enemy smart weapons, and can be guided by either laser or satellite. Smart weapons have already increased destructive power by as much as a factor of 1,000 over the unguided bombs of yesterday.[6] At a time when there is growing intolerance for casualties, they also offer the ability to destroy military targets without inflicting substantial civilian damage.

9. For power projection, the most significant technological advance is in the area of low-observable technologies or stealth. Stealthy platforms have an advantage over their nonstealthy counterparts because of their ability to better penetrate high-threat areas and deliver precision-guided munitions.

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[4] See for example Lawrence Freedman, *The Revolution in Strategic Affairs* (London: IISS Adelphi Paper #318, April 1998) or Michael O'Hanlon, "Can High Technology Bring US Troops Home?," *Foreign Policy* (Winter 1998/99).

[5] Precision-guided munitions, for example, were first developed during the latter stages of the Vietnam War.

[6] Lambeth, p. 69.

10. Battlespace awareness is being enhanced by sensors in satellites, manned aircraft or unmanned aerial vehicles (UAVs), the combination of which can now monitor almost everything that is going on in a particular battle area. Future military commanders are likely to have complete, real-time knowledge of the disposition of all enemy and friendly forces.

11. At the same time, advanced command, control, communication and computing systems are enhancing a commander's ability to act on information. Advanced systems can rapidly make sense of the vast amount of data that is gathered, display it in a useful fashion on screen, and assign targets to missiles and tanks. By reducing the surveillance-synthesis-assessment-command-strike loop to a matter of minutes, these systems have the potential to allow a commander to control a battle from one moment to the next.[7]

Doctrine

12. A number of doctrinal changes are associated with the RMA. Most military experts believe the new military will increasingly be a joint force.[8] Future wars will be "multi-dimensional," in that they will see air, sea, and land operations increasingly integrated, with air activity often preceding land operations and naval forces engaging a wider range of land targets.[9] Such operations are likely to be carried out in a combined environment with several countries' militaries working together.

13. It follows that one of the key doctrinal changes for naval forces involves a move towards littoral warfare. In contrast to the Cold War scenario of conflict between large naval forces deep at sea, most future contingencies will require navies to project force from the sea directly ashore, whether in the context of a regional war or a peacekeeping operation.[10] The littoral region is a natural contender for joint warfare because effective operations require that naval forces work closely with ground forces.[11]

14. For the air force the most notable doctrinal development is the concept of "disengaged combat."[12] Air power proponents argue that advanced precision force and power projection technologies have significantly increased the ability of air power to affect the course of battle on the ground. Land force commanders no longer have to directly face the enemy until such time as the costs of such contact have been made tolerable. As a result, the principal role of land power in future

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[7] Michael J. Mazaar, et al., *The Military Technical Revolution* (Washington, DC: Center for Strategic and International Studies, March 1993), p. 25.

[8] Eliot A. Cohen, "A Revolution in Warfare," *Foreign Affairs* (March/April 1996), p. 47.

[9] "The Future of Warfare," *Economist*, 8 March 1997, p. 22.

[10] Jacquelyn K. Davis, et al., *The Submarine and US National Security Strategy into the Twenty-First Century* (Cambridge, MA; Institute for Foreign Policy Analysis, National Security Studies Paper #19, 1997), p. 31.

[11] Robert Holzer, "Navy, Marines Seek Technology to Hasten Coastal Operations," *Defense News*, 19-25 January 1998, p. 3.

[12] Mazarr, p. 34.

operations may be to secure a win or implement a peace, rather than to achieve these things.[13]

15. Perhaps the most dramatic doctrinal changes are in land warfare. The Cold War armies of yesterday that were equipped, trained and postured to respond to a massive, predictable Soviet threat on the central front are being transformed into mobile and flexible yet highly lethal power projection forces capable of responding to a spectrum of unpredictable risks and threats on NATO's periphery. Armies of the future will likely be comprised of smaller units and depend on lighter, more rapidly deployable equipment. They will be equipped with precision-guided munitions and have access to strategic sea and (especially) airlift assets. They are also likely to become less dependent on extended logistics support structures, adopting the concept of "focused logistics" which results from applying advanced technologies to logistics efforts and eliminates stockpiles by allowing for 'just-in-time' delivery.

Organization

16. It is not only the tools and doctrines of warfare but the organisations that wield them that make for revolutionary change in war. Today's organizational transformation requires that with the shift from "mass destruction" to "precision warfare" comes a parallel shift from mass armies to smaller, more highly-educated and capital-intensive professional armed forces.[14] Units should be commanded by a more decentralised decision-making structure and be specifically tailored to the task at hand.[15]

17. The emphasis on high-quality weaponry has reduced the relative importance of numbers and placed a premium on high-quality troops.[16] As a result, the new military will rest primarily on professional forces as the balance between quantity and quality shifts in favour of quality. Troops must be more highly educated than in the past and will require new skill sets, such as computer-related skills.

18. Advanced military technologies will, in theory, allow privates to know as much about a battlefield as generals. It follows that military organisations will become "delayered," with soldiers accorded more leeway in taking initiatives. Local command will be empowered at the expense of theatre level command.[17] Such a change must be accompanied by new command protocols to avoid the chaos of too many people steering the course of battle. At the same time, increased responsibility at lower echelons must also be coupled with enhanced skill levels.

19. Finally, new military organisations must have the flexibility to switch rapidly from one type

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[13] Lambeth, p. 66.

[14] Andrew Latham, "The Contemporary 'Revolution in Military Affairs,'" paper delivered at a conference on Defence and Security at the Dawn of the 21st Century," Sainte-Foy, Quebec, 2–4 October 1997.

[15] US Joint Chiefs of Staff, *Joint Vision 2010*, pp. 21 & 31.

[16] Freedman, p. 15.

[17] "The Future of Warfare," p. 24.

of contingency to another. This is best achieved by developing forces that can be quickly tailored to a given scenario. It follows that units from one organization must be interoperable with those of other services and other nations.

NATO AND EUROPEAN RESPONSE TO THE RMA

Technology

20. Operation Allied Force in Kosovo and Serbia in the spring of 1999 demonstrated the limited precision forces capabilities of European members of NATO. While NATO as a whole had substantial precision firepower, this was overwhelmingly due to US assets. Although 13 countries took part in the NATO air campaign, more than 70 percent of the firepower deployed was American.[18] Only a few European members of NATO had laser-guided bombs,[19] and only Britain was able to contribute cruise missiles.[20] In terms of aircraft, of the 5,000 or so that European militaries could theoretically use for air strikes, barely 10% are capable of precision bombing.[21] France was the only European ally able to make a significant contribution to high-level bombing raids at night, accounting for 14 percent of all allied strikes at ground targets.[22] At the same time, only the United States could contribute strategic bombers and stealth aircraft for enhanced power projection.

21. Canada, by comparison, "punched above its weight" during Operation Allied Force.[23] Canada contributed a total of 18 CF-18 strike aircraft to the operation, each equipped with *Nighthawk* infrared tracking devices and precision-guided munitions.[24] Canadian fighter jets did on average 10 per cent of the strike missions and represented between 5 and 25 per cent of the strike force on any given day of the operation.[25] The multitasked CF-18's were able to conduct air-to-air combat as well as bomb facilities and ground forces.[26]

22. European allies also critically lacked reconnaissance and surveillance aircraft.[27] Although the Alliance has for many years operated Airborne Warning and Control System aircraft for aerial surveillance, it has yet to acquire an air to ground surveillance capability akin to that which is provided by America's Joint Surveillance Target Attack Radar System. The Alliance was therefore

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[18] "Knights in Shining Armour?," *Economist*, 24 April 1999, Survey p. 3.

[19] Joseph Fitchett, "US Seeks More Defense Technology Cooperation With Europeans," *International Herald Tribune*, 14 June 1999.

[20] "Knights in Shining Armour?," Survey p. 3.

[21] "Armies and Arms," *Economist*, 24 April 1999, Survey p. 12.

[22] Fitchett.

[23] "Canada Earns Air War Stripes in Kosovo," *Toronto Star*, 29 May 1999.

[24] William Walker, "Canada's Jets Ready to Go," *Toronto Star*, 24 March 1999.

[25] "Canada Earns Air War Stripes."

[26] Sean Durkan, "Eggleton: Canada in for the Long Haul, Bad Weather Plagues CF-18 Sorties," *Toronto Sun*, 28 March 1999.

[27] "Robertson's War," *The Times*, 5 August 1999.

entirely dependent on the United States for this means of surveillance. European reconnaissance and surveillance capabilities were somewhat stronger in the area of unmanned aerial vehicles. In addition to America's *Predator* UAV, the allies deployed French and German UAVs in the Kosovo operation.[28]

23. European members of NATO are taking measures to respond to the RMA.[29] Their precision force, stealth and battlespace awareness and control capabilities, particularly as exhibited by Britain and France, are set to modestly increase over the next decade or two. The British Navy is equipping its nuclear propelled submarines, and potentially some of its warships, with the precision-guided, land-attack *Tomahawk* cruise missile. The Army is purchasing the *Apache* ground attack helicopter, equipped with precision-guided munitions. The Air Force has also placed an increased emphasis on "stand-off" precision missiles that can be launched at targets from long range. Meanwhile, France has shown significant interest in stand-off precision strike systems and has placed them "among its highest equipment priorities."[30] The French have developed the *Apache* family of air-launched cruise missiles, and are planning to procure the *Scalp* cruise missile.[31]

24. In terms of power projection technologies, only Britain has concrete plans to strengthen its stealth capabilities. Stealth technology will most likely be incorporated into the successor platform to the RAF's *Tornado* strike interdiction aircraft, likely to enter service sometime after 2015.[32]

25. For battlespace awareness, Britain is proceeding with its Airborne Stand-Off Radar program which will provide its military with a high-altitude radar platform capable of air to ground surveillance. France is focusing on space-based and UAV surveillance systems, developing the *Helios II* infrared satellite as well as the *Brevel* 24-hour unmanned reconnaissance aircraft with Germany.[33] To the extent that Germany seeks improved battlespace awareness, it is focusing less on space-based systems and more on high-altitude long-endurance UAVs.[34]

26. Britain and France are undertaking a process, similar to that of the United States, of enhancing their armies' battlespace awareness by "digitalising" the battlefield. This refers generally to equipping each soldier and vehicle with a small computer that displays a map of the battlefield

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[28] Damian Kemp, "Kosovo War Makes UAVs Part of All 'Future Combat'," *Jane's Defence Weekly*, 30 June 1999.

[29] Canada's response to the RMA, and the challenges and opportunities it faces, will be explored in a separate D Strat A report on *Canada and the RMA*, forthcoming in 2000.

[30] Jean-Michel Boucheron, *Rapport Fait au Nom de la Commission des Finances* (Paris: Assemblé Nationale, 12 November 1997), pp. 122-123 as quoted in Robert Grant, "The Revolution in Military Affairs and European Defense Cooperation," *Arbeitspapier* (St. Augustine, Germany: Konrad Adenauer Stiftung, June 1998), p. 26.

[31] Grant, p. 26.

[32] Douglas Barrie and Theresa Hitchens, "Stealth May Hold Key to Britain's FOAS," *Defense News*, 31 August 1998, p. 3.

[33] Mark Hewish, "UAVs Acquire a View to a Kill," *Jane's International Defense Review* (6/1998), p. 56.

[34] Robbin F. Laird and Holger H. Mey, *The Revolution in Military Affairs: Allied Perspectives* (Washington, DC: National Defense University Institute for National Strategic Studies, McNair Paper #60, April 1999), p. 88.

overlaid with friendly and enemy positions and aircraft flight paths. Britain's first battlefield digitalisation systems are due to enter service in 2002,[35] while France expects to field a digitalised force by 2005.[36] Both systems will incorporate advanced command and control capabilities and will significantly increase the British and French armies' ability to work with that of the United States.

27. Outside these measures by Britain and France, however, Europe's militaries are not incorporating advanced technologies into their military systems quickly enough to stem an already evident and growing technology "gap" between the US military and its European counterparts. This is true too of the Canadian military, although here the gap is not as wide due to the close bilateral defence relations between Canada and the United States since World War Two.[37] A recent report by the North Atlantic Assembly science and technology committee states that "there is no doubt that the transatlantic technology gap exists and is widening. Without remedial actions by the United States' allies, sooner or later -- and probably sooner -- the gap will become a rift."[38]

Doctrine and Organization

28. Since 1991 NATO has moved to adapt its joint military command structure to the post Cold War security environment. The military structure that was aimed primarily at defending members against a massive Soviet threat has been significantly modified and the transition to a new command structure is beginning. NATO has also developed the Combined Joint Task Force (CJTF) concept that will allow units from different services and nations to be brought together and tailored to a specific contingency. Under the concept, NATO communications, logistics, intelligence and other assets will be made available to European members of NATO, working within the European Union (EU), in the event that the United States or other NATO members do not want to participate directly in an operation. At their 1996 meeting in Berlin Alliance foreign ministers requested the Military Committee make recommendations on the implementation of the CJTF concept. Since that time, work has primarily focused on creating the "flexible, deployable, multinational, multiservice" headquarters that can effectively command and control a CJTF.[39]

29. Despite these organizational and doctrinal undertakings, NATO's experience with the Implementation and Stabilisation Forces in Bosnia has demonstrated that the transformation of NATO from a fixed positional defence to a flexible mobile defence is incomplete.[40] Although the CJTF concept is well underway, it has not yet been fully implemented. Moreover, there is concern in some quarters that CJTFs, once constituted, will be suited only to low intensity missions such as

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[35] "British Army Begins Vehicle Digitalization Trial," *Jane's International Defense Review* (8/1998), p. 15.

[36] "France's Next-Century 'Soldier System' Debut," *Jane's Defence Weekly*, 10 June 1998, p. 11.

[37] To be explored in *Canada and the RMA* (forthcoming).

[38] As quoted in *IDR Special Report*, 1 December 1998.

[39] Lieutenant-General Mario da Silva, "Implementing the Combined Joint Task Force Concept," *NATO Review* (Winter 1998), p. 17.

[40] William S. Cohen, "The Atlantic Alliance: A View From the Pentagon," *Joint Forces Quarterly* (Spring 1999), p. 32.

peacekeeping and humanitarian assistance, rather than the entire spectrum of operations up to and including large-scale power projection and high-intensity conflict.[41]

30. At the national level all of NATO's key European members have adopted, in one form or another, force mobility and power projection as the guiding doctrine for transforming their militaries. Britain plans to create by 2001 a Joint Rapid Reaction Force made up of a pool of "powerful and versatile" units from all three services.[42] France is reorganising its armed forces to establish by 2002 a Rapid Action Force of between 50,000 and 60,000 troops that can be quickly deployed to distant crises spots.[43] And Germany has already put in place a Crisis Reaction Force of about 50,000 troops organised from units of all three services.[44]

31. Despite these efforts to create the sort of powerful expeditionary forces that can best respond to crises on NATO's periphery European members remain hampered in their ability to contribute forces suited to today's missions. Although the EU's militaries comprise almost two million people, as compared to America's 1.45 million, it could draw up only half the number of properly equipped and trained professional soldiers specified for the Kosovo operation.[45] One reason for this is a slow move towards military professionalisation and restructuring on the part of some countries. "Europe today has more than enough forces. The problem is that European forces -- Britain and France excepted -- are not structured to deal with the type of security threats the Alliance is likely to face in the future."[46]

32. In 1996 France took the dramatic decision to reverse 200 years of history by eliminating conscription and professionalising the French armed forces. By 2002, 92% of the French military is to be professional, as compared to 59% in 1996.[47] France is also in the process of creating a more modular and flexible army made up of small manoeuvrable units.[48] By contrast, although Germany has manned its Crisis Reaction Force entirely by volunteers, almost half its 340,000 personnel are to remain conscript for the foreseeable future.[49] Moreover, the German army is still largely configured for the Cold War's anticipated European land battle.[50] While the Crisis Reaction Force

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[41] David C. Gompert, et al., *Mind the Gap: Promoting a Transatlantic Revolution in Military Affairs* (Washington, DC: National Defense University Institute for National Strategic Studies, 1999), p. 83.

[42] British Ministry of Defence, *Strategic Defence Review* (July 1998), para 92.

[43] Ronald Tiersky, "French Military Reforms and Strategy," *Strategic Forum* (National Defense University Institute for National Strategic Studies, November 1996).

[44] Juergen Ehle, "Germany's New Security Policy," *Strategic Review* (Summer 1997), p. 60.

[45] "Robertson's War."

[46] F. Stephen Larrabee, *NATO's Adaptation and Transformation: Key Challenges* (Santa Monica, CA: RAND, Prepared Statement for a hearing before the US Senate Committee on Foreign Relation, 21 April 1999), p. 3.

[47] Jean-Philippe Douin, "Adapting French Defence to the New Geostrategic Context," *RUSI Journal* (August 1997), p. 2.

[48] 1996 Defence Program Law, http://www.defense.gouv.fr/ema/strategic/annexe.html, para 1.4.3.

[49] Philippe Mercier, "Les armées et leurs équipements," *défense nationale* (juillet 1996), p. 80.

constitutes 70% of the air force and nearly 100% of the navy, it includes just 16% of the army.[51]

33. Only Britain has made substantial organizational changes, having dismantled units designed to fight a land war in Europe and replaced them with smaller yet powerfully equipped forces that can be moved rapidly by air. With an all-professional army smaller than that of France or Germany, Britain can put a much larger fighting force into combat in places like the Balkans or the Gulf.[52]

34. For its part, Canada contributed 32 pilots and 275 support staff to the air operation, as well as about 90 personnel involved with NATO AWACS patrols.[53] On the ground, Canada is contributing some 800 troops to the NATO-led peacekeeping force.

35. The military capability of European allies is also hindered by the fact that Europe has no equivalent to the C-5 and C-17 heavy transport aircraft and is therefore almost completely dependent on the United States for air transport of troops.[54] "Europe's armies, lacking strategic airlift, are about as mobile as they were in 1914."[55] Only Britain is actively addressing this problem, undertaking to acquire by 2001 four large C-17 aircraft "or their equivalent."[56] In the longer term European nations are focusing on the multinational Future Large Aircraft, the timeline for completion for which continues to be extended.

EXPLAINING THE GAP

36. For some years it has been apparent that there is a dramatic capability gap between the United States and its European allies. During the 1991 Gulf War coalition partners were shown to be deficient in a wide range of areas, including transport, logistics, and advanced technologies used to track troops and enhance the accuracy of warheads. Since that time the gap has only widened. The NATO peacekeeping operation in Bosnia further highlighted the technology gap between US and allied forces in communications, intelligence and surveillance capabilities.[57] The Kosovo operation added precision-guided munitions and missiles, fighter aircraft, long-range bombers and stealth to the list of deficiencies.

37. The widening gap is partly due to substantially reduced defence budgets in all West European countries. Since the end of the Cold War NATO's European members have cut defence spending by

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[50] Roger Cohen, "Europeans Contest US NATO Vision," *International Herald Tribune*, 28 November 1998, p.1.

[51] "Germany's New Look Security Policy," *IISS Strategic Comments* 3, no.1 (January 1997).

[52] Joseph Fitchett,"Blair Presses Case for European Force,"*International Herald Tribune*, 9 March 1999, p. 1.

[53] "Canada Earns Air War Stripes."

[54] Roger Cohen, "Dependent on US Now, Europe Vows Defense Push," *New York Times*, 12 May 1999, p. A12.

[55] "Robertson's War."

[56] *Strategic Defence Review*, para 96.

[57] Jonathan S. Landay, "US Military Outpaces its NATO Peers," *Christian Science Monitor*, 29 September 1997, p. 1.

about 25 percent in real terms.[58] The European allies spend on average 2.1 percent of gross national product on defence, as compared to 3.2 percent by the United States.[59] Budgetary constraints have in turn substantially reduced the ability of European members of NATO to purchase modern military equipment such as attack and transport helicopters, air and sea lift, and fighter aircraft.[60] Indeed, European allies account for less than one-third of NATO's total equipment spending.[61]

38. But it is not only reduced defence budgets that have widened the capability gap -- after all, the United States has also seen its defence spending cut by 25% in the past decade. It is also the manner in which remaining funds are put to use that explains the growing gap. The United States has more aggressively pursued revolutionary innovations in software, communications, sensor and logistics technology to compensate for manpower and equipment reductions. In absolute terms, the United States spends roughly two and a half times as much on research and development as all European members of NATO combined.[62] Too many European resources continue to go towards expensive facilities, inefficiently organised support costs, unnecessarily expensive weapons procurement and conscripts ill-suited to today's security environment.[63] As a result, the allies invest far less than the United States in advanced military information systems, in research and development of new technologies in general, and in recruiting, retaining, and training high-quality personnel.[64]

39. A further reason behind the gap is that in the past decade the United States has undertaken a wholesale restructuring of its defence industries. Huge mergers have brought together a range of specialties -- engineering, electronics, software design, etc. -- into a few large firms, leading to both efficiencies and innovation. By contrast, European firms have not undertaken significant cross-border mergers and still restrict most of their sales to their own militaries. The result is a lack of competition, resources and innovation.[65] Economies of scale also come into the picture. Many NATO countries simply lack the economic ability or large-sized military force required to efficiently undertake highly expensive specialised capabilities such as stealth.

40. Some analysts take a broader view, arguing that Europe's real weakness in security matters lies not in the state of its advanced military technologies but in a deep reluctance, after years of following the US lead, to "think strategically."[66] But regardless of the exact combination of factors,

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[58] "Armies and Arms," Survey p. 11.

[59] Cohen, "Dependent on US Now," p. A12.

[60] Richard Russell, "American Security Policy and NATO's Future," *European Security* (Spring 1999), p. 22.

[61] Former UK Defence Minister George Robertson, "Can Europe Keep Up With the Revolution in Military Affairs?," *RUSI Journal* (April/May 1999), p. 49.

[62] Marc Rogers, "Driving the Alliance—NATO Follows the US Lead," *IDR Special Report*, 1 December 1998, p. 3.

[63] "Robertson's War."

[64] Gompert, et al., p. 9.

[65] Landay, p. 1.

[66] "America Versus Europe," *Economist*, 24 April 1999, Survey p. 5.

the bottom line is that while "European countries spend about two-thirds of what the United States spends on defense [they] don't have anything like two-thirds of the capabilities."[67] Now that the United States has begun increasing its defence spending the capability gap can only be expected to widen.

IMPLICATIONS OF THE GAP

Immediate Implications

41. The most immediate implication of the present and growing technology and capability gap between American and European militaries is that European armies will soon be unable to operate alongside the Americans because of their "technological backwardness."[68] Newly appointed NATO Secretary General George Robertson has spoken of a "two-speed" alliance, with Europe unable to keep up with the United States.[69] Similarly, former US Ambassador to NATO Robert Hunter has argued that differences in technological capabilities could create an alliance with three "tiers" of membership: the United States, which will be technologically capable of "doing everything"; close European allies capable of performing many, but not all, advanced warfare tasks; and finally, new members largely incapable of "keeping up with the pack."[70]

42. Already there are indications that interoperability problems are hampering the allies' ability to carry out combined operations. Interoperability is defined within NATO as *the ability of systems, units and forces to provide services to and accept services from other systems, units or forces and to use these services to enable them to operate effectively together.*[71] During the Gulf War America's superiority in information systems and electronics meant that its military communications were much faster and more sophisticated than those of its allies.[72] More recently, the Kosovo operation has highlighted problems in joint deployment, target identification and weapons compatibility.[73] High-ranking officials have argued, for example, that European air forces will be unable to operate alongside US fighters in future conflicts unless they develop and procure new military electronics.[74]

43. Although problems of compatibly have been an issue for the alliance its inception, the difference today is that US advancements in communications, data processing and precision-guided

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[67] Former UK Defence Minister George Robertson as quoted in Tom Buerkle, "NATO Picks Briton as Its Next Leader," *International Herald Tribune*, 5 August 1999.

[68] "NATO's Re-fit: Big Changes Before the April Summit?," *Jane's Foreign Report*, 29 October 1998.

[69] Robertson, p. 49.

[70] Barbara Starr, "USA Warns of Three-Tier NATO Technology Rift," *Defense News*, 1 October 1997, p. 4.

[71] Klaus Naumann, "From Cooperation to Interoperability," *NATO Review* (July 1996), p. 17.

[72] "Platform Envy," *Economist*, 12 December 1998, p. 24.

[73] Colin Clark, "Campaign In Kosovo Highlights Allied Interoperability Shortfalls," *Defense News*, 16 August 1999, p. 6.

[74] US Deputy Defense Secretary John Hamre as quoted in Joseph Fitchett, "US Seeks More Defense Technology Cooperation With Europeans," *International Herald Tribune*, 14 June 1999.

weapons are in the process of "completely eclipsing" those of its allies and casting into question their ability to function together.[75] The technology gap is making it harder for Americans and Europeans to fight together at the very time when the changing nature of warfare suggests that they should be integrating their forces ever more closely.[76]

Broader Implications

44. The technology gap between the United States and its European allies has implications beyond the creation of compatible forces. The inability of allies to work together in operations could breed new tension within the alliance, undermining not only its effectiveness but also its cohesiveness. Tension could arise if European armies by default find themselves increasingly responsible for the dangerous, manpower intensive tasks that can lead to significant casualties. Given current technological trends, there is a risk that in future combined operations Europeans will be expected to provide the bulk of the ground forces, while the United States provides the high-tech logistics, lift, intelligence and air power.[77] Already we saw this sort of situation in Bosnia in the mid-1990s when European and Canadian troops were deployed as part of the UN mission while the United States restricted its contribution to air strikes--which unwittingly put the UN troops at risk.

45. A growing technological "rift" also increases Europe's security dependence on the United States, raising burden sharing issues and aggravating mutual resentments.[78] "Post-Cold War US defense policy calls for Europeans to do more for their own security...But the disparities in capabilities threaten to have just the opposite effect, with the Europeans becoming even more dependent on superior US military power as the alliance expands."[79] While the divergence in capabilities has not prevented successful operations in Bosnia or Kosovo, many experts argue that European militaries could provide little help in a more demanding engagement. Thus, ironically, the more severe the threat to interests shared by the United States and Europe, the less likely that a true US-European coalition will respond.[80]

46. If this is true then the technology and capability gap among allies could not only breed new tension within the alliance, but, far more significantly, marginalise the political and military importance of the North Atlantic Alliance. During the Cold War the alliance was held together by a common, massive threat. With this threat gone the new "glue" for alliance cohesion must be the ability to work together to respond to the new risks and threats faced by alliance members. Continued political and military support for the alliance on the part of the United States will ultimately depend on the ability of its European allies to make a valid contribution. "The common argument that a stronger, more assertive Europe will undermine NATO as well as US interests is simply wrong. A

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[75] *IDR Special Report.*

[76] "Armies and Arms," Survey p. 13.

[77] Lawrence Freedman, "Britain and the Revolution in Military Affairs," *Defense Analysis* (April 1998), p. 64.

[78] Peter W. Rodman, "The Fallout From Kosovo," *Foreign Affairs* (July/August 1999), p. 50.

[79] Landay, p. 1.

[80] Gompert, p. 4.

Europe that remains allied to the US because of its own weakness is of limited value in the current strategic environment, and probably unsustainable politically."[81] While NATO would not disappear overnight if its European members refused to adapt, the alliance could quite quickly lose its place in the hierarchy of the United States' overseas security commitments.[82]

47. Increasing the military capability of NATO's European members is also in Europe's interest. The more substantial a contribution Europe can make to an operation, the greater the influence it will hold over American decision-making in a crisis or conflict.[83] Equal influence depends on comparable capability and in this sense there can be no real sharing of decision-making power as long as the inequality in the means to act continues to increase.[84] Indeed, it will become difficult for allies to work in partnership if technologies and capabilities do not keep apace. Improving interoperability and critical capabilities is thus the first step in bolstering the European Pillar of the alliance, enhancing the US-Europe partnership, and strengthening the alliance as a whole. Far from replacing NATO, enhanced European military capabilities are central to the Alliance's future viability.

RESPONSE TO THE GAP

48. The crisis in Kosovo brought home vividly the need for a stronger European Security and Defence Identity (ESDI). Ten years after the end of the Cold War, and three years after the end of the war in Bosnia, it became clear that Europe still relied on US leadership to respond to a crisis that most directly affected European interests. Alarmed by their dependence on the United States, European leaders vowed their commitment to the development of an effective European defense and security policy. To lead this drive, they appointed former NATO Secretary General Javier Solana as the European High Representative for a Common Foreign and Security Policy. European leaders also took the decision to merge the long-dormant Western European Union with the EU by the end of 2000, and to transform the Eurocorps into a rapid reaction force.[85]

49. These decisions came on the heels of other recent moves to strengthen the ESDI. In December 1998 Britain and France issued a Joint Declaration on European Defense from St.Malo, France in which they agreed to develop a joint defence capability within the institutional framework of the EU -- something to which Britain had not previously been willing to agree. In their 1999 Washington Summit Communiqué Alliance leaders took measures to facilitate the development of this capability, and to ensure that it takes place within the structure of NATO. Building on their 1996 Berlin provisions on CJTFs, they agreed to develop arrangements that include assured EU access to NATO planning capabilities and a presumption of availability of NATO assets to the EU,[86] including

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[81] Kori Schake, et al., "Building a European Defence Capability," *Survival* (Spring 1999), p. 21.

[82] "NATO's mid-life crisis," *Economist*, 12 December 1998, p. 18.

[83] Grant, p. 24.

[84] Lluis Maria de Puig, "The European Security and Defence Identity Within NATO," *NATO Review* (Summer 1998), p. 31.

[85] Marc Rogers, "EU to Develop Security Policy," *Jane's Defence Weekly*, 9 June 1999.

[86] *Washington Summit Communiqué*, para 10.

such things as intelligence satellites, cargo planes and possibly even precision-guided munitions.[87]

50. But outside these steps most analysts and policy makers agree that a stronger ESDI will depend not only on strengthening decision-making structures and collective political will, but also on tangible improvements in European military capabilities.[88] In this context, institutional changes are less important than modernising forces to meet the demands of the new international security environment. In part this means some EU members spending more on defence. But more importantly it means most members spending their defence budgets on different things.[89]

THE DCI ROLE

51. It is here that the Defence Capabilities Initiative has a key role to play. The DCI is specifically designed to address those areas where the Alliance needs to develop its military capabilities in order that it can effectively respond to the sorts of challenges it is likely to face in the coming years and decades. The Initiative is therefore central to determining where European militaries should focus their modernization efforts.

52. This is true regardless of the outcome of an ongoing debate among allies over the future role of NATO. At the root of the differences lies the American conviction that NATO should be seen as an "alliance of interests" as much as one dedicated to the defence of a specific territory. These interests could see NATO conducting missions in places like the Persian Gulf where weapons of mass destruction hold the potential to threaten alliance members.[90] European allies have questioned the US position, fearful of watering down NATO's core mission of collective defence and wary of becoming some sort of a "junior partner" to American strategic interests.[91] The Washington Summit Communiqué found a middle ground, stating that while collective defence of alliance territory remained NATO's core mission, the alliance "must also take account of the global context."[92] In practice the consensus is emerging that the alliance should operate out of area but not too far out of area.[93] The missions in Bosnia and Kosovo have established the precedent of conducting missions beyond NATO borders, and reflect general agreement that the Alliance must at a minimum be able to shield its members from crises on or slightly beyond its edges. NATO's Mediterranean Dialogue is also an expression of this commitment.

53. Responding as an alliance to a crisis on NATO's periphery or as an individual member part of an ad hoc coalition requires a similar set of military capabilities. Whether it be to the Balkans or

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[87] Joseph Fitchett, "Kosovo Spur to Military Role for EU: Bloc to Fight Own Wars With US Aid, Via NATO," *International Herald Tribune*, 30 April 1999, p. 5.

[88] Alexander Vershbow, "European Security and Defence Identity," *Joint Forces Quarterly* (Spring 1999),p. 53.

[89] Schake, et al., p. 26.

[90] "NATO's Re-Fit."

[91] Steven Erlanger, "US Urging Allies to Refocus NATO," *International Herald Tribune*, 7 December 1998, p. 1.

[92] *Washington Summit Communiqué*, para 24.

[93] "Checks and Balances," *Economist*, 24 April 1999, Survey p. 18.

the Persian Gulf, European allies need to be able to rapidly project power; sustain forces for long periods of time without the benefit of pre-existing communications, logistics, or other infrastructure; engage an adversary effectively across a wide spectrum of possible circumstances; survive potential terrorist attacks and the use of weapons mass destruction; and have effective command and control arrangements.

54. Not surprisingly, these requirements are the primary areas of focus for the Defence Capabilities Initiative. Moreover, they echo the key technological, doctrinal and organizational elements of the Revolution in Military Affairs. Deployability is best enhanced by investing in air and sea lift and by reorganising forces into smaller, more rapidly deployable units that are equipped with lighter yet highly lethal weapons. Sustainability will be dependent in part on the RMA concept of focused logistics and applying advanced technologies to logistic efforts. Effective engagement requires a wide variety of advanced weapons systems associated with the RMA, from precision-guided munitions and all-weather surveillance and reconnaissance systems to attack helicopters and stealth aircraft. It also necessitates that these systems be interoperable among services and militaries to facilitate the joint and combined operations that are fundamental to the RMA. In addition, NATO forces should possess sufficient capabilities to deal with nuclear, biological or chemical threats, in order that their freedom of action is not constrained. This effective engagement requirement is closely related to survivability, which involves efforts to protect forces against the possible use of weapons of mass destruction. Finally, advanced, interoperable, and deployable command and control and information systems are key elements of the RMA and essential for enhancing military capability. Thus deployability, sustainability, effective engagement, survivability and command and control are not only the primary areas of focus for the DCI but they also capture the key elements of the RMA.

CONCLUSION

55. NATO's recent military operation in and around Kosovo brought into stark relief the technology and capability gap between the United States and its European allies. Many of these technologies and resulting capabilities are part of the ongoing Revolution in Military Affairs, which includes a number of technological, doctrinal and organizational changes in the nature of warfare. Although European members are taking measures to respond to the RMA, their transformation efforts are not moving fast enough to stem an already growing gap.

56. Force compatibly has been an issue for the alliance since its inception and marked differences in allied capabilities have been apparent since the Gulf War. But the Kosovo operation demonstrated that US advancements in communications, data processing and precision-guided weapons are in the process of completely eclipsing those of its European allies and casting into question their ability to function together. This, in turn, could have significant implications. The inability of allies to work together in operations holds the potential to undermine NATO's military effectiveness and to strain its political cohesiveness, and therefore to eventually marginalise the military and political importance of the North Atlantic Alliance.

57. To avoid this state of affairs European members of NATO need to enhance their military capabilities. In tangible terms this means more vigorously embracing the technological, doctrinal and organizational elements of the Revolution in Military Affairs. Many of these elements are reflected in the Defence Capabilities Initiative launched by NATO leaders at the Washington Summit. Indeed, the Defence Capabilities Initiative can be viewed optimistically as the Alliance's practical expression of requirements to respond to the Revolution in Military Affairs. As such, the DCI is central not only to improving the military capabilities of European forces and strengthening the European Pillar of the Alliance, but also to ensuring the continued military and political viability of the North Atlantic Alliance. One thing is certain: if the DCI does not ultimately translate into concrete improvements in the European component of NATO's force posture, the long-term viability of the transatlantic link will come under increasing pressure from a US Congress increasingly sceptical about the European commitment to keeping pace with the RMA.

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This report looks at NATO's Defence Capabilities Initiative (DCI) in the context of the Revolution in Military Affairs (RMA) and examines the broader implications for America's relations with its European allies. It concludes that the DCI can be viewed optimistically as the practical expression of requirements to respond to the RMA As such, the DCI is central not only to improving the military capabilities of European forces and strengthening the European Pillar of NATO, but also to ensuring the continued military and political viability of the North Atlantic Alliance. If the DCI does not ultimately translate into concrete improvements in the European component of NATO's force posture, the long-term viability of the transatlantic link will come under increasing pressure from a US Congress increasingly sceptical about the European commitment to keeping pace with the RMA.

Ce rapport examine l'Initiative sur les capacités de défense (ICD) lancée dans le cadre de la Révolution dans les affaires militaires (RAM), ainsi que ses répercussions sur les relations entre les États-Unis et leurs alliés européens. Il conclut que l'on peut affirmer avec optimisme que l'ICD exprime concrètement les besoins découlant de la RAM. À ce titre, l'ICD se situe au cœur des efforts indispensables à l'amélioration des moyens militaires des forces armées européennes et au renforcement du pilier européen de l'OTAN Elle assure enfin à l'Alliance de l'Atlantique Nord la viabilité militaire et politique. Si l'ICD ne se traduit pas en fin de compte par des améliorations concrètes à l'élément européen du dispositif des forces de l'OTAN, la viabilité à long terme du lien transatlantique subira de plus en plus les pressions d'un Congrès américain en proie à un plus grand scepticisme quant à l'engagement de l'Europe à suivre le rythme de la RAM.

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